Queensland Conservation Council

Queensland Conservation Council (QCC) welcomes the opportunity to respond to the Energy Security Board's Capacity Mechanism Project Initiation Paper.

QCC is the peak environmental body for conservation groups in the state of Queensland. Since 1969, we have worked with groups and communities to restore and nurture the environment, leading state-wide campaigns and supporting local and regional campaigns. QCC believes that Queensland needs to be entirely powered with renewable energy by 2030 to avoid the worst impacts of climate change and unlock future economic opportunities.

QCC did not support the capacity mechanism proposal in the Final Recommendations of September 2021. We are pleased that the Energy Ministers did not accept it and referred it for further work. However, the Initiation Paper does not address the fundamental issue of whether a capacity market is needed. We appreciate that the Initiation Paper flags this as an open question but are extremely concerned that the design process is going ahead without addressing this fundamental question.

Regional bodies should plan the orderly exit of coal without a capacity mechanism

The need for a capacity mechanism hasn't been proven for the NEM, and is particularly unclear for Queensland. While we support NEM-wide solutions, a capacity mechanism would have to be largely regional. Queensland's peak demand is more than 10,000 MW and northward interconnection capacity is less than 1,000 MW. There is no escaping that most of the capacity procured to meet Queensland's demand would have to be from Queensland generators. The Queensland Government owns most of the coal fired power generation in Queensland and currently all of the pumped and run of river hydro. It also owns or supports through Power Purchase Agreements a significant and growing proportion of renewable projects.

The Queensland Government therefore holds all the necessary power and ownership to secure capacity through an orderly exit of large coal fired power stations, through comprehensive planning rather than a capacity mechanism. While this is not a perfect solution, particularly from a competition perspective, we do not see that the capacity mechanisms proposed in the Initiation Paper would help reduce the market power that already exists in Queensland.

However, if the capacity mechanism design goes ahead there are several ways to incorporate technology neutrality, decarbonisation, international experience and consumer cost that should be taken into account.

A capacity mechanism should derate all technology based on risk of unavailability

The Initiation Paper raises several potential mechanisms to derate wind and solar to determine their availability at times of peak.

We are concerned that the Initiation Paper doesn't consider derating fossil fuel and hydro infrastructure to the same degree of detail. The incremental reduction of output from coal fired power stations at high temperatures is the only factor considered.

Recent events demonstrate that this is a significant oversight. Coal power outages have been behind both of the two activations of the Reliability and Emergency Reserve Target in Queensland in the last year. In May 2021, the sudden catastrophic failure of Callide C4 led to loss of supply for hundreds of thousands of customers. In February 2022, as Queensland sweltered through a heat wave, nearly 2 GW of coal and gas plant was offline, on top of Callide C4. Kogan Creek, Callide B2 and Swanbank E had been offline on unplanned outages for 2 - 6 weeks before the heatwave. Tarong 3 came offline as temperatures ramped mid afternoon at 3pm on 1 Feb. This is a forced outage rate of nearly 20% of Queensland's coal and gas at the critical time.

A capacity mechanism would also have to quantify the probable unavailability of hydro resources due to drought conditions.

We agree that a capacity mechanism should calculate the likely availability of wind, solar and battery resources but the same should be applied to increasingly unreliable coal and gas, as well as water dependent hydro.

<u>Cost impact for consumers needs to be prioritised</u>

We are concerned that the affordability and cost to consumers of a capacity mechanism is not explicit in the proposed assessment criteria. Cost to consumers, defined more directly than allocation of risk, should be prioritised in the ESB's design assessment.

We believe the ESB Final Recommendations unduly presented positive interpretations of capacity markets around the world and this has not been corrected in the Initiation Paper. In fact heated debate continues over whether capacity markets provide value for money in many settings including:

- Western Australia where over procurement of capacity added $116 million to consumers bills (over $100/customer) in 2016/17[1]
- UK where the capacity market was taken to the European court for discrimination towards flexible Demand Side Response technologies and has failed to incentivise new dispatchable generation[2]
- PJM (Pennsylvania-New Jersey- Maryland) where a lawsuit over the cost of marginal capacity and capacity requirements has been going since 2019[3]

[1] https://www.wa.gov.au/sites/default/files/2019-08/Final-Recommendations-Report-Improving-Reserve-Capacity-pricing-signals_0.pdf

[2] https://energypost.eu/uk-capacity-market-review-reform-rethink/

[3] https://www.spglobal.com/platts/en/market-insights/latest-news/natural-gas/070921-court-partially-remands-fercs-approval-of-changes-to-pjm-capacity-market-curve

- Germany which chose not to implement a capacity market in 2015 over concerns it could be expensive and inefficient[4]

The market must be accessible for all scales of technology

There are already significant barriers to entry to participate in the wholesale electricity market. Rules and regulations are changing to make this easier, through the Wholesale Demand Response Mechanism and as more Virtual Power Plants (VPP) projects get off the ground, but there is still a long way to go to fully integrate demand side and distributed energy resources. These will be increasingly important for resource adequacy in the future as the uptake of both DER, such as small scale PV, behind the meter or community batteries and electric vehicles (EV), and new export industries such as hydrogen start to scale up. All proposed capacity mechanisms involve either retailers or AEMO forecasting demand. However, the uptake of these technologies could change this significantly and empower consumers or aggregators to moderate demand in a much more meaningful way. There is no mention in the Initiation Paper of small scale or demand side resources. We have a shrinking window of opportunity to set up the infrastructure and regulations required for DER and demand side response to play a supportive role for the grid going forward. The Initiation Paper for a capacity mechanism designed to secure supply which doesn't adequately consider these resources is a sign we're going to miss this window, hinder the energy transition and increase costs to consumers.

Decarbonisation must be embedded in the capacity mechanism

We are pleased that decarbonisation is one of the design assessment criteria in the Initiation Paper. However, we believe that decarbonisation must be more heavily integrated into a capacity mechanism, for example, through a carbon intensity cap on the amount of participating generation, as done in the UK, or similar.

A capacity mechanism that props up ageing and unreliable coal fired power stations could only hinder the renewable energy transition and lock Australia and particularly Queensland into dangerous carbon emissions.

We hope that the ESB takes on board the feedback from stakeholder groups and clearly demonstrates the need for a capacity mechanism before proceeding with further design. Once this need has been established, cost, technology neutrality and decarbonisation must be embedded in the design of any mechanism.

Yours sincerely,

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[4] https://www.cleanenergywire.org/factsheets/germanys-new-power-market-design